REMARKS/ARGUMENTS

Reconsideration of the above-identified application in view of the present amendment is respectfully requested. Claims 1-12 are pending. Claims 2 and 10 are amended, and claims 11 and 12 are added.

Claims 1-10 stand rejected under 35 U.S.C. as being anticipated by Carlson et al. This rejection is respectfully traversed.

Anticipation requires a single prior art reference that discloses each element of the claim. W.L. Gore & Associates v. Garlock, Inc., 220 UPSQ 303, 313 (Fed. Cir. 1983) *cert. denied* 469 U.S. 851 (1984). For a reference to anticipate a claim, "[t]here must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention." Scripps Clinic & Research Foundation v. Genentech Inc., 18 USPQ2d 1001, 1010 (Fed. Cir. 1991).

Claim 1 recites that inside the steering column (22) a vibration device is arranged. Carlson fails to disclose that inside the steering column (22) a vibration device (26; 26') is arranged. By contrast, Carlson discloses a hollow shaft 50 that has only lead wires 84, 84' arranged inside the shaft 50. The wires lead to magnetic coils 34, 34', which are located outside of the shaft 50. The coils 34, 34' are energized by a signal from a computer system. The signals from the computer system are transmitted to a force feedback unit and are translated into a resistance to the steering movement of the user or into movements of the steering wheel. The steering

wheel movements are created by a motor 16 (See Figure 4), which rotates a motor shaft. This rotation is transmitted to two rotating members 36, 36' via a coupling containing a magnetorheological fluid. The force transmitted from the motor to the shaft 50 is dependent upon the viscosity of the magnetorheological fluid, which in turn is controlled by the two coils 34, 34'. The motor 16, rotating members 36, 36', rotor 42, and coils 34, 34' are all arranged outside of the shaft 50. No part of any vibration creating device is arranged inside the shaft 50. Therefore, claim 1 is allowable.

Claim 2, which is rewritten to include all of the features of claim 1 from which claim 2 was dependent upon, should be allowed for the same reasons as claim 1 and also for the additional feature that the vibration device (26; 26') comprises an electromagnet with a coil (32) and an armature (38) arranged therein so as to be axially displaceable. Carlson does not disclose or suggest a vibration device comprising an armature arranged in a coil, where the armature is arranged axially displaceable. First, the element 58 in Carlson is not a coil of an electromagnet. Rather, this element 58 is one of two mechanical coil springs that are positioned between the frame 28 and members 36, 36' to provide compressive forces to absorbent elements 46, 46' (Col. 10, lines 49-62). Second, Carlson fails to disclose a vibration device that has any axially displaceable parts. The motor 16, rotating members 36, 36', rotor 42, and coils 34, 34' are permanently fixed in the axial direction with respect to the

shaft bearing the steering wheel. Force is transmitted to the shaft 50 by rotational movement only.

Further, Carlson fails to disclose any armature. The coils 34 of Carlson are used solely to create the magnetic field determining the viscosity of the magnetorheological fluid. They are not used for generating any movement, but serve only for the coupling of rotating members 36 to rotor. Therefore, in view of the above-mentioned reasons, claim 2 is allowable. Claims 3-9 and 11 depend from claim 2 and are therefore allowable as depending from an allowable claim and for the specific features recited therein.

Independent claim 10 also recites that the vibration device is arranged inside the steering column. Thus, claim 10 should be allowed for the same reasons as claim 1. Also, claim 10 is amended to recite that the vibration device is arranged inside the steering column for generating a haptic warning signal that can be felt by a driver on a surface of the steering wheel rim. Carlson does not disclose or suggest a vibration device for generating a haptic warning signal that can be felt by a driver on a surface of the steering wheel. Further, Carlson does not show a safety system as claimed in claim 10.

Instead, Carlson shows a force feedback steering wheel for computer games. In Carlson, the haptic signal gives the user, for example, a feeling for the state of a simulated road surface on which his simulated car is driving. In another example, the haptic signal could prevent the user from turning the steering wheel in a direction that is not allowed by the

game. However, the haptic signals of Carlson are related to a game rather than a safety system for a full size vehicle, and thus cannot also be warning signals. Therefore, in view of the above-mentioned reasons, claim 10 is allowable.

New claim 12 recites a vehicle steering device comprising a steering column and a steering wheel with a steering wheel rim. The steering column is fixed to and rotates with the steering wheel. A vibration device is arranged inside the steering column for generating a haptic signal which is able to be felt by a driver on a surface of the steering wheel rim. Neither Carlson nor any other prior art disclose or suggests all of the features of claim 12. In particular, Carlson fails to disclose that inside the steering column (22) a vibration device (26; 26') is arranged. By contrast, Carlson discloses a hollow shaft 50 that has only lead wires 84, 84' arranged inside the shaft 50. The wires lead to magnetic coils 34, 34', which are located outside of the shaft 50. The coils 34, 34' are energized by a signal from a computer system. The signals from the computer system are transmitted to a force feedback unit and are translated into a resistance to the steering movement of the user or into movements of the steering wheel. The steering wheel movements are created by a motor 16 (See Figure 4), which rotates a motor shaft. This rotation is transmitted to two rotating members 36, 36' via a coupling containing a magnetorheological fluid.

The force transmitted from the motor to the shaft 50 is dependent upon the viscosity of the magnetorheological fluid, which in turn is controlled by the two coils 34, 34'. The

motor 16, rotating members 36, 36', rotor 42 and coils 34, 34' are all arranged outside of the shaft 50. No part of any vibration creating device is arranged inside the shaft 50.

Further, Carlson fails to disclose a steering column, which has a vibration device arranged inside, is fixed to and rotates with the steering wheel. By contrast, the rotating members 36, 36' and coils 34, 34' are disposed for independent, relative rotation about shaft 50 (See Col. 8, line 45). Thus, they cannot be part of a vibration device that is arranged inside a steering column that is fixed to and rotates with the steering wheel. Therefore, in view of the above-mentioned reasons, claim 12 is allowable.

In view of the foregoing, it is respectfully submitted that the above-identified application is in condition for allowance, and allowance of the above-identified application is respectfully requested.

Please charge any deficiency or credit any overpayment in the fees for this amendment to our Deposit Account No. 20-0090.

Respectfully submitted,

Thomas L. Tarolli
Reg. No. 20,177

TAROLLI, SUNDHEIM, COVELL,
& TUMMINO L.L.P.
1300 East Ninth Street, Suite 1700
Cleveland, Ohio 44114
Phone: (216) 621-2234
Fax: (216) 621-4072
Customer No.: 26,294